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MARY'S SCRAP BOOK.



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MARY'S SCRAP BOOK.

BY A LADY.

LONDON:

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PREFACE.

WHAT child is not fond of flowers, birds, and butterflies? These most beautiful of Nature's works are the first objects which delight and interest their minds. As soon as a child is old enough to be led into the fields, with what eager joy will it stop to gather each flower that appears in its path, loading its little basket with these new-found treasures; and with what intense interest will it watch the sweet warbler as it flutters from spray to spray, or the brilliant butterfly as it flutters gaily before it in the sunshine! How it

longs to examine more nearly that soft plumage, and those beautiful velvet wings !

Then, when returned from one of these joyous excursions, the child will still find something to interest and engage his attention, in the contents of his basket. Seated on the floor, with his gathered favourites scattered around him, he may now be seen earnestly and thoughtfully engaged in the examination of one of them,—carefully picking off the petals one by one, with his little fat fingers ; and then, after their removal, peeping curiously into the calyx, to see what hidden wonders are now brought to light.

As soon as children are old enough to make these observations by themselves, they are old enough

to be led to observe and inquire into the uses of objects around them; and the sooner they are accustomed so to exercise the powers of their mind, (in any manner which is pleasing and interesting to them), the more easily will the habit for observation and inquiry be instilled into them.

To encourage in them a taste for searching and examining into the beautiful and wonderful works of the Creation, will be providing them with a source of innocent amusement and delightful gratification through every period of their lives: and what is a more important advantage, perhaps, in thus directing their early thoughts, it is through this happy channel, where their strongest feelings of joy and admiration are called forth, that they

may be led to look to the Creator of all that is beautiful and wonderful, and to feel love and gratitude towards HIM, for these proofs of his great goodness to them.

A wish to assist (in however trifling a degree) in thus directing the minds of the young, was the writer's motive for publishing this little volume : but a wish, at the same time, to write in a style that would make it pleasing and interesting to the minds of some dear little relatives and friends, yet too young to read even these pages by themselves, has caused her to introduce some subjects and remarks, more calculated to amuse and interest the minds of the very young, than to instruct ; and to touch but lightly on some subjects, on which much more might have been said.

The occupation of writing it has been a source of great interest to her; and should she ever have the pleasure of seeing these pages cause one smile of interest, or one look of animated inquiry, in any one of those dear faces, she will feel all the gratification she could wish.

MARY'S SCRAP-BOOK.

CHAPTER I.

ONE day, as little Mary was sitting by her Mamma, drawing houses on her slate, the footman brought a large square parcel into the room, which he said had just arrived by the coach. Mary was very much surprised and delighted to find that the parcel was for her, and wondered much what could be in it, and who could have sent it; she begged her Mamma to open it for her directly, and her Mamma very kindly laid down her work, and with her scissors cut the string with which the parcel

was tied, and opened it,—when great was Mary's delight to find it contained a large book, on the cover of which was printed, in gilt letters, MARY'S SCRAP BOOK. The leaves of the book were of different coloured papers, and on them were stuck a variety of drawings of birds, flowers, and many other things that were pretty or curious. There was also a note in the parcel for Mary ; and then she found that the book was a present from her kind Aunt, who said that she thought, if Mary asked her Mamma, she would sometimes tell her about the drawings, as she sat at work, after Mary had said all her lessons. Her Mamma readily promised to do so, but said she could not begin till to-morrow, as she had then a long letter to read : so Mary sat very quietly looking at the book by herself till tea-time, when she put it by, and said she would not look at it again till after she had

said all her lessons the next morning, and her Mamma was able to look at the pictures with her, and tell her something about them.

The next morning, as soon as Mary had finished her lessons, she said to her Mamma,—“Mamma, you promised me, if I said all my lessons well this morning, you would look at my new scrap-book with me, and tell me something about the pretty drawings that are in it.”

MAMMA. So I did, my love ; and you have been so attentive this morning, that you have finished your lessons half-an-hour earlier than usual ; so, if you will bring your book here, I will fulfil my promise to you at once.

MARY. What do you mean, by saying you will fulfil your promise to me ?

MAMMA. I mean that I will do as I promised

you I would do : I promised to look at your new book with you, and tell you what I could about the drawings in it ; when I have done so, then I shall have fulfilled my promise to you. Now, let me see what is the first drawing. Oh ! it is a bird ; a very curious bird, too, called the Grenadier Weaver.

MARY. But here are two birds called the Grenadier Weaver, though they are so very different ; why do they call two such different birds by the same name, Mamma ?

MAMMA. Ah ! I do not wonder at your thinking that these drawings are of different birds : but that is not the case, they are the same bird ; only in one picture it has on its gay summer dress, and in the other, it is clothed in its winter dress of quiet brown ; for the Grenadier Weaver (like many other foreign birds) moults, that is, sheds its

feathers, twice a year ; and one half of the year it is brown, like this drawing, while during the other half of the year it is dressed in the gay plumage of this drawing. Can you tell me what I mean by calling it a foreign bird ?

MARY. You told me this vase was called foreign, because it came from a different country from this we live in ; so I suppose this bird came from another country : did it come from China, where the vase came from, Mamma ?

MAMMA. I am glad you remember what I told you about the vase : this bird did not come from China, or from the same quarter of the world China is in, which is, you know, Asia ; but from the Cape of Good Hope, in Africa. This bird was one of Grandpapa's pets, and a very amusing and wonderful little bird it was, too. But I will tell you all about it, and then you shall tell me if

you do not think so. One day, soon after Grandpapa had it, he put some long pieces of grass into its cage, thinking it would, perhaps, like to pick them about a little. Soon after he had done this, he passed the cage again, when he saw the grass was nicely woven in and out the wires of the cage, like basket-work. Grandpapa wondered who could have been amusing themselves with twining the grass about the cage in this manner, and took it out again. A few days after this, when next he hung the cage in the verandah, he gave the bird some more grass, and presently, when he passed the cage, he found some of that woven in and out of the wires of the cage, as nicely as the other had been ; and now he began to suspect that the bird itself must have done it, for he was almost certain that no one had been near the cage since he had hung it out there ; so he determined to watch the

bird from a place that he thought it could not see him, and very shortly, he saw the little fellow as busy as possible twining the grass in and out of the wires of its cage, with its beak, as neatly and closely together as any one could have done it.

MARY. Dear! how very curious! Who had taught it to weave, Mamma?

MAMMA. No one had taught it, my love. It is the natural habit of these birds to weave, as it is the natural habit of sparrows to build their little round nests of moss, hair, and feathers, and of doves to build their rough nests of sticks; and, indeed, of all animals to do something or other, each different from the rest. The great GOD, who made the world and all that is in it, did not give animals power to think, and find out different ways of doing things, as He did us; but He gave them different habits and ways of living, and mak-

ing their houses or nests, which have continued the same with them ever since.

MARY. I suppose Grandpapa did not know, at first, that it was a weaver bird ?

MAMMA. No ; he did not know what was its proper name until he found it could weave ; after that, Grandpapa used to supply it with grass, coloured ribbon or string, or anything else he thought the bird could manage, that it might amuse itself whenever it pleased, and a very curious-looking cage it made with them. It was so industrious, that I think it would, in a short time, have twined them all over its cage, making it into a snug, close house, (just leaving a window or two to look out of, perhaps), if Grandpapa had not undone its work from time to time ; for he did not like that it should shut itself up so that no one could see it.

MARY. But was not the bird very much disappointed when Grandpapa pulled its work to pieces so often ?

MAMMA. No ; it was quite as happy and contented as it would have been had it been allowed to finish its house ; and would chatter and sing away as merrily as possible ; though I can hardly call the noise it made, singing, for it was just such a noise as is made with grinding knives or scissors on a grindstone.

MARY. What a very odd noise for a bird to make. I think I should have admired its weaving more than I should its singing ; but I should like to hear it once, and so I should like to see it weave, very much. May I, Mamma, when next I go to see Grandpapa ?

MAMMA. I am sorry to say the poor little Weaver-bird is dead ; but I believe that its cage has

still the grass and ribbon woven in it, just as the little bird left it, and we will ask Grandpapa to show that to us, when next we see him, shall we ?

MARY. Oh! yes, if you please, Mamma. I should like to see it very much. I am sorry I shall not be able to hear its funny sort of singing; but when next the old knife-grinder comes here, I will listen to the noise his grindstone makes, and fancy it is the Weaver-bird singing,—and that will do almost as well. The next drawing in my book, is the nest of the Tailor-bird. Is it not a pretty little nest, Mamma? lying so snugly among the leaves of that beautiful plant. But why is it called a Tailor-bird, I wonder; it cannot work, of course.

MAMMA. Yes it can, though, and very nicely too: if you look closely at the leaves round the nest, you will see they are sewn together; well, that is the work of the Tailor-bird. Now, do not



you think that this sewing is as wonderful as the bird's weaving?

MARY. I think it is still more curious. But how can the bird sew? Where can it get a needle and thread from?

MAMMA. This little bird manages to sew very well without a needle, and the thread it makes itself: I will tell you how. It gets some wool from the cotton tree, and with its beak and claws twists it into thread; then, with its long, sharp beak (which serves it for a needle), it makes holes through the leaves it is going to sew together; then it takes the end of the thread with its beak, and, with the help of its middle claws, it passes through the holes, and draws the leaves together closely, thus joining them as securely as possible. I have never seen a Tailor-bird at work, but this is the way I understand they manage it.

MARY. How very curious. How much I should like to see one make its thread and then sew with it. Is the Tailor-bird a foreign bird, Mamma?

MAMMA. Yes ; Hindostan is the native country of the Tailor-bird I believe. Can you tell me where Hindostan is ?

MARY. I cannot remember ; but I think if you will tell me which quarter of the world it is in, I can find it out on the map.

MAMMA. It is in Asia—and here is a map of the World ; I should like you to find it out, and then you will not be likely to forget it again. Yes, there it is, at the south of the Chinese Empire. Now, before we close the map, shall we look for the Cape of Good Hope, where the Weaver-bird came from ?

MARY. Yes ; I remember where that is. It is this point of Africa nearest to the south, Mamma.

And now will you tell me about the Cotton-plant, for that is the next drawing? You said the Tailor-bird made its thread with the Cotton-plant: perhaps this is the plant you mean; but I cannot think how thread can be made of a plant.

MAMMA. Then you will be surprised to learn, that the muslin frock you have on, and this nice smooth cotton you work with, these chintz window-curtains, and many other useful things, are all made of the Cotton-plant.

MARY. Dear, Mamma, can this be true? Do tell me all about it; and will you show me a Cotton-plant? I should like to see one very much.

MAMMA. I cannot show you a plant, because they will not live in this country, excepting in hot-houses; and I know of no hot-house near where there is one; but in the East and West

Indies, and other warm countries, there are large fields of it cultivated; that is, planted with cotton-plants, and properly taken care of, for use. There are several sorts of cotton-plants; some grow as high as the lilac and laburnum trees, but the plant which is most commonly cultivated does not grow higher than the seat of this chair. This plant has a pretty, pale yellow flower, and when this flower dies off, it leaves a small pod, which contains the seed. You know, many sorts of flowers have their seeds in pods; the poppy is one, and the sweet pea is another. Well, the pod of the Cotton-plant, when it has grown to about the size of a walnut, and is quite ripe, bursts open; and then may be seen inside of the pod, a soft white cotton (such cotton as that your shells are laid upon), and in the cotton the seeds of the plant lie buried.



MARY. What a soft, warm bed for them, Mamma. But do tell me how my frock can be made of this plant; I should so like to know all about it.

MAMMA. The soft, white cotton, is the part, and the only part of the plant which is used for these things; but there must be a great deal done to the cotton before it can be made into a frock or a curtain:—First, it must be all nicely picked from the plant, then cleaned, and what is called carded: after that has been done, it is spun into very fine thread,—I do not think I can explain to you very well how.

MARY. I think I know, Mamma; for I went to a cottage with Papa the other day, where an old woman was very busy at work with something she told me was a spinning-wheel, and then I saw, that as the wheel went round, the lump of wool,

which was fixed near it, was drawn off into a fine thread, which the woman let pass through her fingers on to a reel, which was spinning round very fast all the time, on the other side of the wheel (which was going round as well), and so the reel kept winding the worsted (for it was worsted the woman was making) on to itself as fast as it was made. I liked watching it so much, that I was quite sorry Papa did not stay longer. Perhaps you will take me to see the old woman again, some day, Mamma.

MAMMA. Yes, my dear little girl, that I will, if I am able. You have described to me so well what you saw, that you deserve such an indulgence, as it shows me that you made good use of your time whilst you were there, and learned what you could ; so I shall be very glad to take you, and explain to you any thing more that I can about the spinning-wheel.

MARY. Thank you, Mamma; and I should so like to try and spin a little myself; it seemed very easy.

MAMMA. Ah! I recollect when I was about the same age that you are, I thought the same, and begged my Aunt, who used to spin every evening, to let me try. She told me she knew I should not be able to manage it; but I could not help fancying that I should be able to do it very well, for I had watched her so very often, and had observed exactly how she put her foot up and down, to make the wheel turn round; and how she rolled the thread backwards and forwards between her finger and thumb, as the reel wound it up, that I could not help thinking I should be able to do it just the same. I begged so very hard, that at last, my good-natured Aunt said she would let me try: so down I sat in her seat, placed my

foot upon the board, and took hold of the thread with my finger and thumb. But, alas! I soon found that to know how a thing was done, and to be able to do it, are two very different things. When I pressed my foot upon the board to make the wheel turn round, I found I had not strength to press it hard enough to make the wheel go *quite* round; so first it ran round a little one way, then it turned back again; then snap went the thread, and I did not know how to join it; and so there was an end of my spinning. I remember, my Aunt laughed very heartily to see my surprise and dismay at things going on so differently from what I had expected; but I did not see any thing to laugh at, for I felt rather ashamed at being so certain that I should be able to spin; and as I did not at all like being laughed at, I never asked if I might try to spin again;

but often since, when I have seen others doing any thing which appeared to be very easy, but which I had never tried to do, I have remembered my first attempt at spinning, and thought it best not to be at all sure that I could do a thing, till I had tried, for that I very likely might be as much mistaken about that, as I was about the spinning.

MARY. Then I think I had better not ask the old woman to let me spin, for fear I should get her work into confusion ; and I do not think I should much like being laughed at, either. And now, will you tell me what is done with the cotton after it is spun into thread.

MAMMA. A great many hundreds of these fine threads are then placed side by side, in a machine called a loom, to be woven into calico, or muslin of some kind.

MARY. What is a machine, Mamma?

MAMMA. Any thing which has been built together, with power to be useful in making or doing something else, is a machine. The spinning-wheel is a machine for making cotton, wool, or flax, &c., into thread; a mangle is a machine for pressing rough linen smooth; and the loom is a machine for weaving threads of any kind into muslin, or cloth, or calico, or flannel, or such things. I am afraid I cannot explain to you, very well, how the man who works at the loom weaves the threads so nicely together, with the shuttle of thread he holds in his hand; but I hope I shall be able to take you to see a person weave, some day, and then you will understand all about it. Here is a piece of calico, which is cotton woven together; pull out one of the threads slowly from the edge of it, and then you will see

how regularly it is woven in and out the threads which lie across the other way. Here is my magnifying-glass ; look at the calico through this, and you will be able to see the threads much plainer.

MARY. Ah ! how much larger the threads look through the magnifying-glass. Now I can see how they pass over and under, very well ; just as you said the weaver-bird passed the grass and string over and under the wires of its cage.

MAMMA. Yes ; only when you have seen a weaver at work, you will see he manages his threads in rather a different way from what the weaver-bird does its grass : the bird works more like a basket-weaver, I think. But hark ! I hear the dinner-bell ; so shut up your book, my love, till to-morrow.

MARY. How quickly the time seems to have passed. I do so like hearing you tell me about

these curious things, Mamma; I hope you will be able to look at some more of the drawings to-morrow. I wonder whether Sarah knows that my frock is part of a plant; I will go and tell her all about it.

CHAPTER II.

THE next morning, after breakfast, Mary ran to get her books, that she might say her lessons in good time, to hear some more about her Scrap-book before dinner ; but her Mamma said to her, just then, that she should have to go out early that morning, to a cottage some distance off, and she hoped Mary would finish her lessons in time to go with her ; so Mary did not say any thing about her book, for she knew that if her Mamma could have indulged her, she would ; but she sat down to learn her lessons as quickly as she could, that she might be ready to go out as soon as her

Mamma wished to go. It was a beautiful morning in spring, and many a little bird was singing its sweetest song ; and Mary soon felt quite glad to think that she should have a walk in the beautiful country, with her dear Mamma, that morning. Her lessons were all finished before her Mamma was ready to go, and she ran to put on her bonnet, and to get her basket ; for her Mamma had told her that she should have a bundle of linen rag for her to carry.

And now Mamma was ready, and off they set through the garden, which led into the pleasant lane. As they were walking along, Mary asked her Mamma if they were going to see any one who was ill, or who had been hurt, that they were carrying this bundle of rag with them.

MAMMA. We are going to see a poor girl who has burned herself very sadly, I understand. Her

mother sent this morning to beg for some linen to lay over the burns, and I said I would take it to her, for I thought I could then see if I could do any thing more for her.

MARY. Poor thing ! How did she burn herself, Mamma ?

MAMMA. They tell me, that as she was lighting the fire yesterday morning for her poor mother, who was ill in bed, her apron caught fire : she did not see it at first, and when she did see it, she was so frightened, that instead of lying down on the apron and smothering the flame, she ran out of the house screaming to a neighbour for help : the draught of wind quickly spread the flames as high as her neck, and she would soon have been burned to death, had not the neighbour run out with a large cloak, and wrapped it close round her ; but the poor girl's arms and neck are sadly burned,

they say ; and I fear she will suffer for a long time.

MARY. Poor girl ! How very shocking ; and how frightened the poor mother must have been.

MAMMA. Yes ; and she is too ill to nurse her poor girl, which must be a sad trouble to her. But here we are at the cottage : tap gently at the door, and wait till some one opens it.

When they entered the cottage, they found poor Betsey, (for that was the name of the little girl who had burned herself,) lying in a little bed in one corner of the room, and moaning sadly, for the pain was very great. Mary's Mamma talked kindly to her, and said she would send her something nice for dinner. Mary asked her Mamma if she might save a piece of her pudding for her ; her Mamma said she might, and if she liked, she might walk there with Sarah in the afternoon,

and bring it to her, herself. Mary was much pleased at this, and left the cottage quite happy to think she should be able to give poor Betsey something that she would like to have.

As they were walking home again, Mamma said, "Ah ! if I had known of the poor girl's accident directly it happened, I would have sent some cotton wool to be wrapped closely over all the burns, and that would have saved her much pain, and healed the sores much sooner ; but now that they have put salve and grease, nothing must touch the burns but linen."

MARY. Is not linen made of the cotton-plant, Mamma ?

MAMMA. No ; but is made of a plant, though ; a little plant, which is called flax.

MARY. Do tell me all about it, if you please, Mamma, as you did about the cotton-plant, yes-

terday. Has it a pod of soft cotton as that has?

MAMMA. No; it is a very different-looking plant from the cotton-plant, in every respect; it is much smaller, not branching at all, but has a straight, slender, smooth stem, with small green leaves on it; and the flowers, which branch out from the top of this stem, are of a delicate blue colour; but I think I can show you a plant of it when we return home, for I saw one in flower, growing on a heap of rubbish near the garden, when we came out.

MARY. Ah! that will be very nice, to see the real plant; but does it grow wild, Mamma?

MAMMA. It grows wild in some parts of England, though not any where near here, I believe. I dare say, the plant I saw this morning has sprung up from a linseed (which is the seed of

flax), which has been thrown there with other rubbish, by accident.

MARY. But pray, Mamma, what part of the plant can be made into linen? I cannot think.

MAMMA. The stalk.

MARY. The stalk! the smooth, stiff stalk! Can they make such fine soft linen as that I carried this morning, with the stalk?

MAMMA. Yes, when the stalk has been properly prepared; and I will now try and explain to you all about it; for you may suppose there is a great deal to be done with it before it can be woven into cloth. Large fields are sown with the seed of the plant, and it is left to grow till the plants have flowered, and begin to turn yellow; they are then pulled up and tied in bundles to dry; after that, they are put into ponds of water for five or six days, till the bark (which is the

outside of the stalk) is sufficiently rotted, to strip easily from the reed (which is the *inside* of the stalk). When they are taken out of the water, they are put in an oven, or some warm place, to be dried again; and when they are quite dry, the bark is peeled off and put by itself, for that is the *useful* part of the plant, and is what is called flax, when it has been beaten hard with hammers on a block, till it is quite divided into threads,—fine, smooth-looking threads; and this flax may be spun into thread, and afterwards woven together in a loom, in the same way that I have told you cotton is done.

MARY. I wonder who first thought of making the stalk into thread. I do not think I should ever have thought of such a thing. But here we are just home again: now can you show me where the flax grows?

MAMMA. Yes; look yonder, among that ground-sel, and if you are not very blind, you will soon spy it out, I think.

MARY. You must mean this pretty blue flower, Mamma. Why, the stalk does not look different from the stalks of many other plants; could they not make thread of them as well?

MAMMA. There is a plant called hemp, which is cultivated also for the sake of its thread; but the thread is much coarser, and only fit to make string, or rope, or very coarse cloth with. And there are other plants from which thread might be made, I dare say, but flax and hemp are found to be the best, so they are the only two sorts which are cultivated.

MARY. Why, I do think, Mamma, that this plant is just like a drawing in my Scrap-book; and now I remember, that is called flax.

MAMMA. Yes, my love, it is the same, for I saw the drawing as you were turning over the leaves of your book yesterday, and thought, when I saw this plant this morning, that it would do nicely for us to talk about as we walked along ; for I knew you were wishing to hear about some more of your drawings.

MARY. So I was, Mamma, and am very much obliged to you for thinking of it. I was rather disappointed when you told me we must go out this morning ; for I thought you would not be able to tell me any more about my book, and after all, you have told me a great deal about it. I am very glad that I finished my lessons in time to go out with you, for it has given me three pleasures : the pleasure of walking with you ;—the pleasure of knowing I may take some of my pudding to poor Betsey ;—and the pleasure of hearing about another drawing in my Scrap-book.

MAMMA. Ah! how much happier you have been, than you would have been, had you put yourself out of humour this morning, because you were disappointed; and so had not finished your lessons in time to go out with me. But, my love, you must now run in and take off your bonnet as quickly as you can, for it is your dinner-time.

CHAPTER III.

WHEN Mary returned from her second walk to the cottage, she found her Mamma seated at work in the drawing-room. “Oh, Mamma,” said Mary, “Betsey liked her pudding so much. She said it was the nicest pudding she had ever tasted.”

MAMMA. I am very glad she liked it, my love; you may, if you please, take her another piece to-morrow.

MARY. Thank you, Mamma, I should like it very much; and I should like to take something to her every day till she is well, if I may.

MAMMA. You may take her something every

day that the weather is fine enough for you to walk out. And now, Mary, I was just thinking that I shall have half an hour to spare for your Scrap-book this afternoon; so if you would like to hear any more about the drawings, bring the book to me at once.

MARY. Oh! thank you, Mamma; I should like it very much, indeed. First, let us look at the drawing of the flax. Look, Mamma, here it is. Is it not just like the plant we found?

MAMMA. Yes, that is the common flax; and here is one of its smooth, shining brown seeds, drawn by the side of it, I see. I do not think I have told you anything about the seed yet: that is useful in many ways, as well as the bark.

MARY. No, you have not told me anything about the seed; but will you, if you please? for I should like to know all that is made of this use-

ful little plant, very much. I wonder what these little, hard seeds can be used for. Are they good for food, Mamma?

MAMMA. Only for cattle, I believe. Linseed has been used for food sometimes, when people could get nothing better to eat; but it was very disagreeable food, and not at all wholesome, I understand. But there is something made from this seed which is very useful, and by which you often benefit: every evening, indeed, during the winter.

MARY. What can you mean, Mamma? I did not think that I had ever seen or heard of linseed before now.

MAMMA. How could you find your way from the drawing-room to the nursery, in the winter evenings, if there were no lamp-light in the hall?



MARY. Why, I must have a candle, I suppose. But why do you ask me that? We were not talking about lights; we were talking about linseed.

MAMMA. And I was thinking about linseed when I asked you that question; for the lamp in the hall is lighted with oil, and that oil is got from linseed.

MARY. Oil got from linseed, Mamma! I should never have guessed that; and I wondered why you should talk about the lamp-light, just when I was wishing to know how linseed was useful to me. Ah, Mamma, I know you said that just to puzzle me; now, did you not?

MAMMA. Why, I did not expect you would be able to guess what the lamp-light had to do with the linseed, certainly; but I think, now, you will never forget. Do you think you shall?

MARY. No. I think, now, whenever I see a lamp burning, I shall think of linseed and flax, and all you have told me about it. But how do they get the oil out of all these little seeds, Mamma?

MAMMA. There are large mills, called oil mills, built on purpose to do this work. A large quantity of the seed is placed in the mill, and there it is smashed and pressed, under heavy stones, until all the oil is squeezed out of it. As the oil is pressed out, it runs into something placed there on purpose to catch it; and then, when it has been strained off quite clear, it is fit for use.

MARY. Well, they manage to get the oil out more easily than I had thought they could. Do they get oil from any other seeds, Mamma?

MAMMA. Oh, yes, from a great many different sorts; but, I believe, the linseed is the only seed

in England from which they collect oil for burning. The candles I sometimes burn of an evening are partly made of the oil of the cocoa-nut. The salad oil we use at dinner is the oil of the olive, the fruit of a tree which grows in Provence, Languedoc, and other warm countries. Then there is oil of almonds, which you took in an emulsion you had, when you had that sad cough ; and oil of cloves, which I put to my tooth when it ached so terribly ; and a great many other oils, all useful for some purpose or another, which I cannot tell you about now.

MARY. I think I know of another oil, Mamma ; and it is from a plant which grows in almost every garden too. When you were putting the oil to my hair the other day, you said it was scented with oil of lavender. I did not think about it at the time ; but I suppose that must be

oil pressed from the seeds of the lavender, is it not?

MAMMA. You are right in thinking that sweet scent came from the lavender which grows in the gardens; but that oil is not pressed from the lavender seeds in a mill, as I told you the linseed was, but it is extracted—that is, drawn—from the *flowers* of the lavender. These flowers are gathered and put into water in a particular-shaped vessel called a still; then the water is made hot, and, as it gets hot, the oil comes out of the flowers and floats on the top of the water. They then skim it carefully off the water, and put it into bottles.

MARY. How I should like to have some of that sweet scent! Do not you think you could make some oil of lavender, if I were to gather you a great many flowers, Mamma?

MAMMA. Not unless I had a still, which is the

name of the vessel in which it must be done ; and then it would cost more time and trouble in doing than I should think it was worth, so we had better be content to buy it at the shops. There are many more of your favourite garden flowers from which oil is extracted for the sake of their sweet scents, and these sweet-scented oils are called essences. There is essence of jasmine, essence of violet, and essence of rose, which is generally called otto of roses, because that is the name it is called by in the country from which we have it.

MARY. What useful things plants are, as well as being so sweet and so beautiful ! How many different things you have told me of, which are made from plants !

MAMMA. And there are many, many, more useful plants which I have not yet told you any

thing about ; but I have something more to say about the linseed, and I think I had better say it at once, for I must soon go and dress for dinner. I told you that the oil was pressed out of the linseed in a mill. Well, after they have pressed all the oil they can get out of the seed, they make what is left of the seed into large, flat cakes, called oil-cakes ; and these are good food for sheep and other cattle, for it makes them very fat, and they are very fond of it ; and now I think I have told you the principal uses of this plant. Do not you think it is one of the most useful little plants you ever heard of ?

MARY. Yes, indeed. I did not think, when I looked at this drawing yesterday, that it was of any use, only to look pretty in the garden. Now, let me see, how many things have you told me of that can be made from this plant ? First, there

is the flax, which can be made into thread and linen.

MAMMA. Yes, and lace and cambric, and damask table-cloths, the patterns of which you so often admire ; and string, which is made of the coarser pieces of flax, and a great many more useful things of the same kind.

MARY. And then the seed gives oil, which is burned in lamps.

MAMMA. And which is also used by painters to mix their colours in, and colours so mixed are called oil-colours. Linseed oil is also used in medicine ; and the seed is very good for poultices, when boiled.

MARY. Oh, how many things this plant is good for ! And then the seed, after the oil has been pressed from it, is good food to fatten sheep and other cattle with. I wonder whether there is any

other plant which can be made into so many different useful things as this flax can.

MAMMA. I will some day tell you about a plant which grows abroad; and when I have told you all the different useful things the natives make of it, you shall tell me which you think is the most useful plant of the two — the flax or that foreign plant. But now I must say good-bye to your book for the present, for it is past five o'clock.

MARY. But, Mamma, before you go, if you please, will you just tell me what you mean when you say the natives? Do you mean the birds?

MAMMA. No, my love, I mean the people of that country in which the plant grows; for people are called natives of the country to which they belong, as well as birds and other animals. You and I are natives of England, French people are natives of France, and German people are natives

of Germany ; and now, my little native of England, come and see whether your supper is ready, for I think it must be.

CHAPTER IV.

MANY days passed before Mary could hear any more stories about her Scrap-book. First, her Mamma went from home, and when she returned she brought friends with her, and she was too much engaged with them, during their stay, to have any time to spare to Mary and her book ; but now the friends had left them, and Mary was again walking alone with her Mamma to the cottage to see Betsey, who was now so much better as to be able to sit up and amuse herself with working and reading ; and Mary was taking

her some pieces of print to make patchwork with, and one of her favourite books for her to read.

As they walked along, Mary said, "Do you know, Mamma, whenever I walk this way I think of the little flax plant, because, you know, we were walking in this lane the first time you talked to me about it."

MAMMA. And now you have reminded me of something more I have to tell you about the flax, which I forgot to tell you when we were talking about it before. There is another very useful thing that is made of it—something as useful as any thing I have yet told you of.

MARY. Something more made of flax! Dear Mamma, what can it be? Is it made from the flax, or the seed, or from any other part of the plant?

MAMMA. It is from the flax; but it is very dif-

ferent from any thing I have yet told you of. I will describe it to you, and see if you can find out what it is.

MARY. I dare say it is something or other sold in a linendraper's shop, which I do not know the name of.

MAMMA. It is made of a great many different sorts of articles sold in linendrapers' shops, all mixed together.

MARY. Dear Mamma, what an odd-looking thing it must be! Do tell me what it is. I am so wondering what it can be.

MAMMA. It is not at all an odd-looking thing; and though made of so many different pieces, you cannot see any joins in it, but it is quite smooth and thin, and will tear very easily. Now I will tell you one thing more about it, and then I think you will be able to guess what it is. You

look at it every morning when you read, and learn your lessons ; and when you write your copy, or look at your Scrap-book.

MARY. I think you must mean paper, Mamma. Ah, I see by your smile that I am right. But is that made of all sorts of things which are to be got at a linendraper's shop?

MAMMA. Yes ; paper is made of all different sorts of old rags, and those, you know, are pieces of such things as are sold in linendrapers' shops.

MARY. But I cannot fancy that paper can be made of old rags. How can rags be changed into nice, smooth, white paper?

MAMMA. By boiling them. After the rags have been washed quite clean, they are cut up into little pieces, and boiled over and over again, till they are boiled into a soft mass called pulp,

which, mixed with the water, looks more like gruel than any thing else.

MARY. And can they make paper of that pulp?

MAMMA. Yes; and I will tell you how. When the pulp has been boiled enough, it is poured into a large, square tub, called a vat; then a man takes a frame the size the sheet of paper is to be, dips it into the vat, and takes out as much pulp as will make a sheet of paper; then he shakes the frame to spread the pulp smooth over it, and to let all the water run through the bottom of the frame. Now the pulp looks like a sheet of very wet paper, and in this state it is taken out of the frame, and placed between two pieces of felt.

MARY. I wonder they can manage to take it out of the frame without tearing it.

MAMMA. Ah, I dare say if you or I, who are not used to the work, were to try to take it out,

we should tear it; but paper-makers have learned, by practice, how to handle it. Well, after a great many sheets of paper have been placed between felts, and piled up one above another, they are pressed together very hard to squeeze all the water out they can, and then taken out from between the felt, and hung up to dry.

MARY. I should not think they would dry very smooth.

MAMMA. No; after this, the paper is made wet again by dipping it into what is called size.

MARY. What is the use of dipping it into size, Mamma?

MAMMA. We could not write on it if it were not sized, but the ink would spread as it does on blotting-paper, which has no size in it; and now, after the paper has been sized, it is pressed again, and then it is finished.

MARY. How curious to think that such a nice useful thing as paper is, should be made of pieces of old rag, which are of no use to any body. Is all paper made of linen rags, Mamma?

MAMMA. Oh no: cotton rags are used for many sorts; and coarse, brown paper is made of old ropes chiefly, I believe; and rope, you know, is made of hemp.

And now they had arrived at the cottage, where they found Betsey smiling, and happy to see her kind friends again, and her poor mother much better than she had been, and very grateful for all their kindness. After they had given the work and book, and sat and talked with them a little while, they left the cottage to return home again.

It was a beautiful summer's day, and the fields and hedges were full of sweet flowers. Mary re-

marked that, in almost every open flower, there was a bee busy gathering the honey out of it.

MAMMA. Yes, here they are, little, industrious creatures, making the most of a sunshiny day! They remind me of your pretty hymn :—

“ How doth the little busy bee
Improve each shining hour,
And gather honey all the day
From ev'ry opening flower.

MARY. How skilfully she builds her cell,
How neat she spreads her wax,
And labours hard to store it well
With the sweet food she makes.”

I suppose the sweet food she makes is the honey; but I can never see any honey in the flowers, Mamma.

MAMMA. I dare say not, for there is such a very little, tiny drop in each flower, that you

would scarcely be able to see it if you knew where to look for it ; but if you were to pick off one of the blossoms of that white nettle, and put the bottom of the white part into your mouth, you would find it taste very sweet.

MARY. So it does, Mamma, just like honey ; and I suppose if I were to taste other flowers I should find them as sweet.

MAMMA. A great many are as sweet, but not all ; and remember, some flowers are poisonous ; so do not taste any without asking me first whether you may.

MARY. But the bee manages to get the honey out without spoiling the flower, as I have done. How can it get its head down so far into these little flowers ?

MAMMA. The bee has a little trunk growing below its mouth, and with this it can suck the

honey out from the very lowest part of the flower. Look at that bee ; how laden it is with the yellow powder it has collected from the little stamens which grow out of the middle of the flowers : that is not to make honey with, but is for food for the young bees.

MARY. I thought they ate nothing but honey : then there are two useful things which they get from flowers. But where do they get the wax from, that they make their little cells with ?

MAMMA. The wax is made from honey which they swallow, and let it remain till it is turned into wax (which it will be in about twenty-four hours), when they bring it up again, and spread it out into thin sheets of wax, which they afterwards join together, and make into beautiful honey-comb, such as I have showed you.

MARY. Oh, what wonderful little creatures,

and useful too ; for what nice food their honey is, and so good for coughs and sore throats. How thankful the poor people are for it when they are ill.

MAMMA. And think of how many useful things there are made of the wax. Candles, which give a brighter and clearer light than any other sort of candles ; and sealing-wax is partly made of bees'-wax ; and many different salves and ointments, and polishes for furniture, have bees'-wax in them : and there is another very pretty thing made of wax, which little girls are generally very fond of, and which I have seen make my Mary dance for joy when she has had one given to her ; and what can that be ?

MARY. I think you must mean a wax doll, Mamma ; but I did not think that beautiful wax was bees'-wax.

MAMMA. Yes it is, properly cleaned and coloured. Now, do not you think that little girls should be particularly obliged to bees?

MARY. Yes; I shall always think, when I look at them so busy among the flowers, that perhaps they are helping to make me a new wax doll.

MAMMA. And when you look at the sweet flowers, you must remember it is they which supply the honey with which the bees make the wax.

MARY. So it is! then I think I should be the most obliged to the flowers, after all.

MAMMA. And who made the flowers, with their sweet honey? and who taught the bees to make that sweet honey into wax?—None but the Great God above could contrive any thing so wonderful and beautiful as this little insect and these delicate flowers! What a kind Heavenly Father we

have, to supply us with so many things that are sweet and lovely, as well as all that is useful and necessary for us! And it is He whom we must thank and praise for all these good things.

CHAPTER V.

THE next day, when Mary came in from the garden, where she had been very busy at work in her own little piece of ground, she found her Mamma seated at work in the drawing-room, quite alone ; and she thought to herself, this would be a nice opportunity for hearing another story about some drawing in her Scrap-book ; so she said,—“ I think, Mamma, you look very much as if you could tell me about some more of the pictures in my book, if I were to bring it to you now ? ”

MAMMA. Why ? Because I am sitting alone with my work ? Well, that is the case generally

when I tell you stories, certainly ; and I am quite at leisure to attend to you now, if you like to bring your book here : but first those little fingers must be washed ; they look very much as if somebody's garden gloves had holes in them, I think.

MARY. Yes, Mamma, they have terrible holes in them ; garden gloves get holes in them very soon, somehow.

MAMMA. And when holes come, little girls should ask Sarah or some one to mend them, if they are not old enough to mend them themselves : but if they forget to do that, they must not mind the trouble of washing their hands when they come in from the garden : so run along, my love, and make yourself clean and tidy, and then come down again as quickly as you can, that we may have time for a long chat before I am likely to be interrupted.

After a few minutes, Mary returned with clean hands, smooth hair, and a smiling face; and taking her Scrap-book from the shelf, placed it on the table before her Mamma.

“Do you know, Mamma,” she said, as she turned over the leaves to find the drawing she wished, “when I was working in the garden, I saw a butterfly settle on a flower near me, which I think was like one in this book. Yes; here it is: and I think it is just like it, too. Look, Mamma, is not this a pretty drawing? Here is a butterfly, and a branch with currants on it, and a caterpillar; and something else lying near it which looks very like a bee, or a wasp of some kind, without any wings or legs. What is it, Mamma?”

MAMMA. That is a chrysalis; and what you call a butterfly, is the currant-moth, I see.

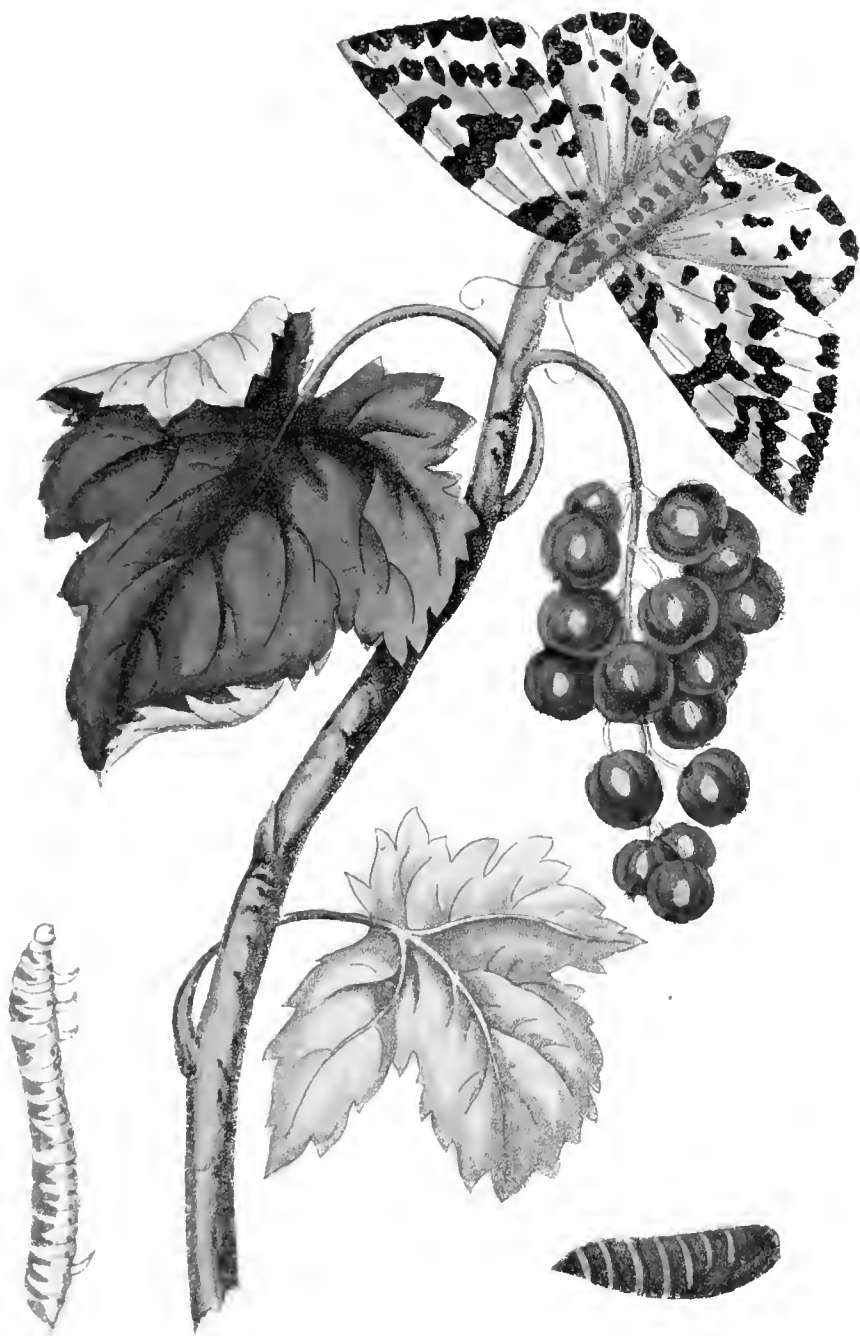
MARY. What is a chrysalis, Mamma? Is it an insect?

MAMMA. No, it is not an insect; it is only a case from which a moth like that came out. Perhaps you do not know that all moths and butterflies are first caterpillars, then chrysalises, and then, out of these chrysalises, come the pretty moths and butterflies.

MARY. No, I never heard of it before. How can they change into such different looking things?

MAMMA. God, who made the beautiful flowers, and the wonderful little bees, can also cause these wonderful changes in the caterpillars; and most curious and interesting it is to watch these little creatures, and see how all these changes take place.

MARY. How I should like to see a caterpillar



change, and a butterfly come out of the chrysalis : that must be a beautiful sight, I think.

MAMMA. And you can see these changes, if you do not mind the trouble of feeding the caterpillars with fresh leaves every morning ; and I will give you a proper sort of box for keeping them in.

MARY. Oh ! thank you, Mamma. I shall like feeding them very much, and seeing every morning how much they have eaten. But where can I get any caterpillars from ?

MAMMA. I dare say, if you look among the gooseberry and currant bushes, you will find some like this one, for they are very common ; indeed, there are sometimes so many of them, as to eat every leaf off the bushes.

MARY. Then the gardener will be much obliged to me if I take some away, I dare say. I shall

pick out the youngest I can find, that I may see them grow.

MAMMA. We should look about for some eggs of the moth, and then we shall see the changes from the very beginning.

MARY. Eggs, Mamma? Do caterpillars come from eggs?

MAMMA. Yes; but not *quite* such large eggs as birds'-eggs; the eggs of the currant-moth are about the size of the head of a small needle.

MARY. Dear! what sweet little things they must be. I hope I shall be able to find some.

MAMMA. I once had some eggs of a moth, which I saved in a little box, in hopes that they would hatch; and every morning I used to look, the first thing, to see whether there was any change in their appearance; after watching them a great many mornings, without seeing any differ-

ence in them, I thought, one morning, they looked darker than usual; so I got some leaves and put into the box, and when I went to look at them about an hour afterwards, the little caterpillars had come out of their eggs, and were feeding on the leaves.

MARY. What little tiny things they must have been, Mamma.

MAMMA. Yes, they were. I used to look at them through my magnifying glass at first: they were such beautiful little things, of a pale yellow colour, with fine black silky hairs about them, and two little black tufts upon their back.

MARY. Were they the caterpillars of the currant-moth? This one does not seem to have any tufts upon it.

MAMMA. No; they were the caterpillars of the drinker-moth; and are very handsome indeed

when full grown. Caterpillars change their coats several times while growing, and after each change they appear in a brighter coat than before. When the drinker-caterpillar was full grown, it had a beautiful velvet-looking coat of brown and orange, with black, silky stripes down the sides, and two long tufts of black upon its back, one at each end.

MARY. How very handsome they must be ; I think I should like to have one of them very much.

MAMMA. Very likely we shall be able to find some in the spring ; for they are rather common then, as they live through the winter, and so may be found full-grown before many other sorts are hatched.

MARY. Then I suppose many sorts do not live through the winter. What becomes of them then ?

Do they change into such a thing as this?—I forget what you call it.

MAMMA. A chrysalis. Most caterpillars change into the chrysalis state in the autumn, and remain so through the winter, till sweet flowers and warm sunshine come again; when the chrysalis case bursts open, and out comes the beautiful butterfly, or moth, to enjoy itself in the fresh, sweet air, amongst its favourite flowers.

MARY. Butterflies always look so happy in the fields and gardens, fluttering about among the flowers. But why do you call some butterflies and some moths?

MAMMA. Butterflies are different from moths in many respects. All butterflies fly in the day-time; while *nearly* all moths fly of an evening, and remain hid in the day-time; then, the moths have in general much thicker bodies, and longer

down upon them, than butterflies, though this is not always the case: that currant-moth, for instance, has a thin body, and is in shape altogether like a butterfly; and it also flies by day, as do butterflies. But I will show you how you may always know a moth from a butterfly. Do you see these two horns which grow out of its head?

MARY. Yes; they are like two black hairs.

MAMMA. Well, all butterflies and moths have two horns growing out of their heads: but the horns of butterflies are thicker at the tip than at any other part, while the horns of moths are always *thinner* at the tip than they are at any other part; and they generally curl round in the way these do, whilst the horns of butterflies always stand out quite straight.

MARY. Yes, I see. I think I shall always remember the difference between a moth and a but-

terfly now : but will you tell me, if you please, how a caterpillar changes into a chrysalis.

MAMMA. Different sorts of caterpillars change in different ways : but I will first tell you of the currant-moth, as we have the drawing of the chrysalis here to look at. Do you see the caterpillar is hanging from that leaf by a fine thread ? Well, that thread is spun by the caterpillar, with something it brings out of its mouth : when the time is come for it to turn into a chrysalis, it will crawl into some snug corner, generally among pailings, and fastening itself there with this fine thread, it sheds its skin for the last time, working it gradually off over its head ; and then its body is without legs or head that can be seen, and gradually turns to this dark brown and yellow chrysalis.

MARY. How very curious ! Then I suppose the

inside of the chrysalis keeps changing and changing, till it has turned into a moth.

MAMMA. Yes ; but this change does not take place quite so quickly as the caterpillar's change into a chrysalis does : that change takes place in the course of a day, but the chrysalis remains quite still, and looking just the same all through the autumn and winter, till the weather becomes warm again, as I have told you.

MARY. And how long does it live as a moth ?

MAMMA. Oh ! not many weeks : its happy life is soon at an end ; but before it dies, it lays its eggs in some safe place, near currant or gooseberry bushes, that the little caterpillars may have proper food to feed upon when they are hatched.

MARY. How curious that they should know where to lay their eggs. Do all moths and but-

terflies take care where to lay their eggs near the proper sort of food?

MAMMA. Yes. God has made them all to know the proper place for laying their eggs; and many butterflies cover their eggs carefully over with the down from their own bodies, which some pick off in a very curious way. Moths and butterflies have no mouth, excepting a long tube, that is, a trunk like the bee's, only longer, with which they suck honey out of the flowers; but some moths have something growing at the end of the tail, almost the shape of a pair of sugar tongs, only *very, very* tiny; and with this it can pick the down off its body and lay it over its eggs, very quickly and very nicely: others use their legs for the purpose, which they make as useful as we do our hands.

MARY. How very curious. I never thought, till now, that moths and butterflies could do any

thing but suck the honey from the flowers, and fly about; or that caterpillars did any thing but eat the leaves and flowers: and now, what wonderful things you keep telling me about them. Pray, Mamma, what sort of a chrysalis did the drinker-caterpillar make?

MAMMA. Oh! that made itself a beautiful little case with its silken thread, which it spun from its mouth in the same way that the currant-caterpillar makes its little rope. When the caterpillar wanted to turn into a chrysalis, it crawled up into one corner of the top of the box it was in, and then began to spin its thread, fastening it to the top, and then to the side of the box, then back again, backwards and forwards, backwards and forwards, till it was quite hid within it.

MARY. How many times it must have passed the thread across and across, before it could have made it thick enough to hide itself.

MAMMA. Yes ; and after it was hidden, I could still hear it at work inside, spinning the thread round its own body till it was quite shut up in a little house, not so large round inside as my thimble, but a little longer ; and then it turned into a black chrysalis, about twice as large as this one, in which state it remained till the spring, when, one morning, I found the new moth had eaten its way through one end of the spun case, and walked out.

MARY. I should like to see such a chrysalis case as that, very much.

MAMMA. Such a case as that is called a cocoon. Many caterpillars spin themselves such cocoons as these ; so I dare say we shall be able to find one before very long. Then there are many sorts of caterpillars which bury themselves in the earth, and turn to chrysalises there.

MARY. I have got another drawing of butterflies or moths somewhere in this book. Shall I find it, and then perhaps you will be able to tell me what sort of chrysalises they came out of. Here they are : do you know them ?

MAMMA. Ah ! yes : they are old favourites of mine. Now can you tell me whether they are butterflies or not ?

MARY. Let me see if I can. The large one is a butterfly, I think ; for the ends of its horns are much thicker than the other part : and I think the horns of the other one are rather thicker at the tip ; but it has such a thick, downy body, that it looks more like a moth than a butterfly, I think.

MAMMA. Ah ! I thought that one would puzzle you : and no wonder ; for it is neither a common moth nor a butterfly, but is what is called a

sphinx-moth, which I have not yet told you about. You see its wings are very long and narrow, not so deep as the body is long, and the body is very thick. Well, all moths of this shape are called sphinx-moths; and many of them, though not all, have the horns thicker at the tip: but you may easily know them from butterflies and other moths, from their thick bodies, and their wings being so long and narrow.

MARY. Yes, I think I understand the difference. But what are the names of these two beauties, Mamma?

MAMMA. The sphinx is called the humming-bird-moth: and shall I tell you why it is called so? There are some beautiful little birds abroad, which feed upon honey, and when they take the honey from the flowers with their long, thin beaks, they do not settle upon the plant, but sup-

port themselves in the air, before the flower, by fluttering their wings very quickly,—so quickly, that they make a slight humming noise ; and so these little birds are called Humming-birds. Well, this moth, when it sucks honey from flowers, supports itself in the air the same way as the humming-bird does, and so it is named after that. I have seen one darting from flower to flower, and from bush to bush, so quickly, and without settling at all, that it seemed hardly possible for it to get any honey out in the time : but I suppose it was having a nice supper, though I could not see it take the honey ; for this is the way they always feed.

MARY. I hope I shall see one some day : I shall like to watch it very much. And what sort of a caterpillar has this moth ? and what sort of a chrysalis does it turn to ?

MAMMA. The caterpillar is of a delicate green colour, with white stripes and little white dots down each side: when it turns to a chrysalis, it buries itself in the ground, or makes itself a cocoon on the surface of the earth, with little bits of leaves, or stems of plants, and earth, all fastened nicely together.

MARY. Well, that is another sort of chrysalis case; different from any you have told me of before, is it not?

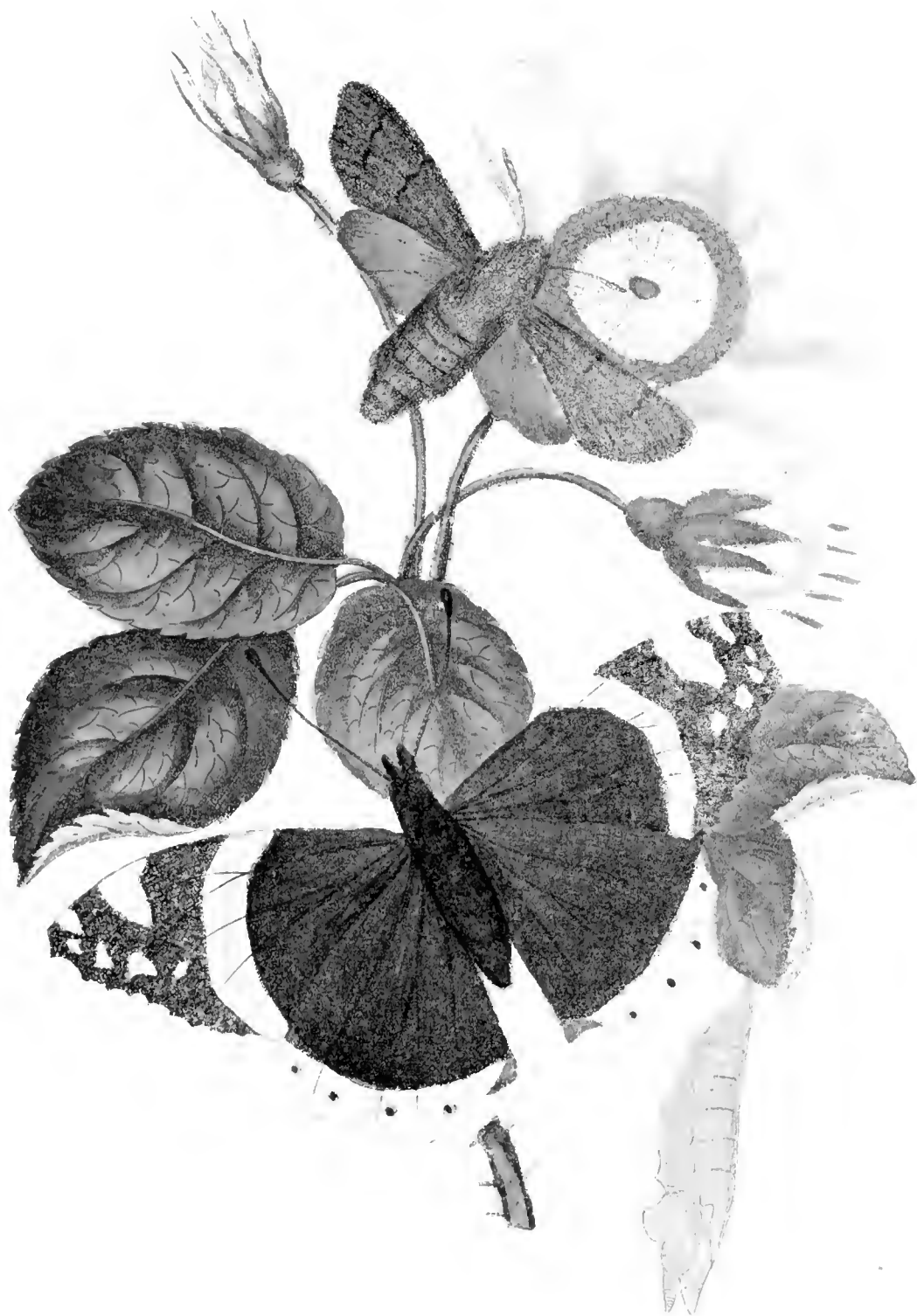
MAMMA. Yes; and this butterfly, which is called the Red-Admiral, comes out of a chrysalis, which is also of a different shape from that or any I have yet told you of. The caterpillar, before it changes to a chrysalis, crawls to the under part of a leaf, or branch, and fastening just the tip of its tail with its web, securely to the branch, hangs

with its head downwards, slips off its skin for the last time, and then remains hanging as a chrysalis, till the butterfly comes out. Look here : this is the chrysalis, hanging to the rose-stalk.

MARY. So it is : I did not see it before. But when all the leaves fall off, what will the poor chrysalis do then ?

MAMMA. The red-admiral, and many other butterflies, do not remain in the chrysalis state all the winter, but only for two or three weeks ; so, if you are anxious to see the different changes as quickly as possible, we had better look about for some of those butterfly caterpillars which change in a few weeks.

MARY. Oh yes, do let us, if you please, Mamma ; for I was thinking it would be a long time to have to wait all through the winter, before the moths



came out. What a nice long story you have told me about the moths and butterflies this afternoon, and what wonderful and beautiful things they are ! But I do not think they are of any use, are they, Mamma ?

MAMMA. The birds would tell you that they were of great use to them, for many birds feed on them and other insects entirely.

MARY. The birds eat the beautiful butterflies ! Oh, Mamma, I do not think I shall like birds if they do that.

MAMMA. I wonder how the beautiful birds like you for eating them up !

MARY. I eat the birds, Mamma ! Oh, I would not hurt them on any account.

MAMMA. But you have no objection to a piece of chicken or duck, or partridge or pheasant, when there is any for you at dinner-time, have you ?

MARY. No: no more I have. I did not think about those birds; but I should not like to catch and kill them myself at all.

MAMMA. No, I dare say not; but do not fancy that those who do kill them are more cruel than yourself for doing so. God has kindly given us all animals for our use; and we may kill any of them we want for any purpose, only we must be careful not to put them to more pain than necessary: if we hurt any poor dumb animal, when we need not have done so, then we are cruel. But you were saying just now, that you did not think that moths and butterflies were of any use to us. I can tell you of one moth which is as useful to us as the flax and cotton plant are.

MARY. Dear, Mamma, how can moths and butterflies be useful to us?

MAMMA. In spinning silk for us. There are

caterpillars called silkworms, which spin their cocoons with fine, smooth silk: well, all the beautiful silks and satins, ribbons and velvets, which are made, are made of the silk of these cocoons.

MARY. Are they indeed? How many cocoons there must be to give enough silk to make so many things with! I should have thought that if there had been cocoons on every tree and plant in the fields and gardens, there would hardly have been enough, and yet I never see any about anywhere.

MAMMA. They do not belong to this country, but to China, Persia, and other warm countries, where they feed on the mulberry-trees, which grow wild there; and there are large plantations of mulberries on purpose for the silkworms to feed

upon, and to spin their cocoons on; and there are a great many people employed in collecting the cocoons as soon as they are made, that they may wind the silk off them before the moths come out.

MARY. Why, would not the silk be as good after the moths had come out of the cocoon?

MAMMA. No; the moth would eat its way through the cocoon, and so divide the silk into so many short pieces that it would be of no use. They like to wind the silk off in one long piece, as the caterpillar has spun it. The silk of one cocoon will measure as much as six miles long! Only think of a little caterpillar, not longer than your finger, spinning six miles of silk, and that it will do in three days too!

MARY. Why, six miles is much farther than I have ever walked. How wonderful it seems that

a little caterpillar can spin such a long, long silk as that! What colour do they spin their silk, Mamma?—all the different beautiful colours we see silks and satins made of?

MAMMA. No: their cocoons are generally yellow, sometimes very pale, and sometimes a dark orange; but the silk is always bleached—that is, made white—and then it can be dyed of any colour that is wanted: and now tell me if you do not think the silkworm a very useful little insect to us?

MARY. Yes, indeed! though I can hardly yet believe that so many things can be made of silk spun by a little caterpillar. All the silk gowns and pelisses, and ribbons and handkerchiefs we see, made from the silk of a little moth!

MAMMA. Yes; moths and plants give us the greater part of our clothes, and many other useful

things besides. But I must leave off talking about moths and plants now, for it is very nearly dinner-time, I see.

MARY. Then it is very nearly my supper-time, I suppose, and I am glad of it, for I begin to feel rather hungry. What a nice long afternoon we have had with my book to-day! have not we, Mamma?

MAMMA. Yes; and this is the last time that we shall look at it, and talk about it together, for a long time, I believe.

MARY. Oh why, Mamma? I am so sorry to hear you say so.

MAMMA. Are you? I rather think that sorrowful look will be changed to one of joy, when I tell you the reason why.

MARY. What can the reason be! Do tell me, Mamma.

MAMMA. Why, the reason is, that if to-morrow be fine, your Papa will take you to see your dear Grandpapa and Grandmamma; and if you are a good girl, you are to stay with them for some time.

MARY. Papa take me to see Grandpapa and Grandmamma to-morrow! I can hardly believe it! Oh! how delightful that will be!

MAMMA. Ah, I thought you would not be *very* sorry to give up your Scrap-book for a few weeks, to pay a visit to Grandpapa.

MARY. But what a secret you have kept it. Why did not you tell me of it before, Mamma?

MAMMA. I did not know on what day you would go till just before you came in from the garden; and then I thought I had better not tell you any thing about it till we had had our chat about the butterflies, for I guessed the news would

make you so happy you would not be able to think of any thing else after you had heard it; and now you have got something pleasant to talk and think about while you are at supper, which is now ready for you, I dare say.

MARY. I do not think I could eat any supper just now: I do not feel at all hungry.

MAMMA. Why, I thought you told me a few minutes ago, that you were getting very hungry? What! has this happy news taken away your appetite?

MARY. I suppose it has, for I do not feel at all hungry now; but I should like to go with you into your room, and talk to you a little about my journey and my visit, if I may.

MAMMA. Yes, you may come with me, if you like, and I will tell you how you are to travel; and we will settle what books and work you shall take

with you, for it would not do for you to forget what you have learned, or to pass the days in idleness. If you wish to enjoy your visit, try to perform your duties each day, as you would do them if you were at home with me; for we cannot be happy if we neglect to do what we ought to do.

THE END.



